AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-14 (cancelled).

15. (New) A method for triggering a heterodyne interferometer, the interferometer including two acousto-optical modulators situated in separate light paths, a receiver configured to generate an analog signal, and a downstream analog-to-digital (A/D) converter configured to convert the analog signal into a digital signal, the method comprising:

triggering a first one of the acousto-optical modulators using a first modulator frequency;

triggering a second one of the acousto-optical modulators using a second modulation frequency, a difference between the first modulation frequency and the second modulation frequency forming a heterodyne frequency; and

converting the analog signal into a digital signal by the A/D converter using a sampling frequency;

wherein at least two of the first modulation frequency, the second modulation frequency and the sampling frequency is formed from a fundamental frequency of a common oscillator.

16. (New) The method as recited in claim 15, wherein the first modulation frequency and the second modulation frequency are generated from the fundamental frequency by a method of direct digital synthesis (DDS) by incrementing a digital accumulator of word width N by an integer Z for each clock pulse of the oscillator, the oscillator being a quartz oscillator having the fundamental frequency.

17. (New) The method as recited in claim 15, wherein the first modulation frequency and the second modulation frequency are generated separately in separate direct digital synthesis units from the fundamental frequency.

18. (New) The method as recited in claim 16, wherein a sawtooth-shaped value curve of contents of the digital accumulator is formed by incrementing the digital accumulator.

19. (New) The method as recited in claim 16, wherein a value curve in the digital accumulator is interpreted as a phase value of a cosine oscillation, a sample value of a cosine oscillation being determined from the phase value via at least one of a table stored in a ROM, and an algorithmic method, and the cosine oscillation being smoothed in an analog low-pass filter.

20. (New) The method as recited in claim 15, wherein the sampling frequency of the A/D converter is formed by a divider unit from one of the first modulation frequency and the second modulation frequency.

21. (New) The method as recited in claim 15, wherein the sampling frequency is an integral multiple of the heterodyne frequency.

22. (New) The method as recited in claim 21, wherein a ratio between the sampling frequency and the heterodyne frequency is a factor of at least 2.

23. (New) A device, comprising:

a heterodyne interferometer including two acousto-optical modulators situated in separate light paths, a receiver configured to supply an analog signal, and a downstream analog to digital (A/D) converter configured to form a digital signal from the analog signal, a first one of the acousto-optical modulators being triggered by a first modulation frequency, and a second one of the acousto-optical modulators being triggered by a second modulation frequency, a difference between the first modulation frequency and the second modulation frequency corresponding to a heterodyne frequency, and a sampling frequency being provided for conversion of the analog signal into the digital signal; and

a triggering unit configured to generate at least two of the first modulation frequency, the second modulation frequency, and the sampling frequency, the triggering unit including a common oscillator having a fundamental frequency.

24. (New) The device as recited in claim 23, wherein the triggering unit includes a direct digital synthesizer to generate the first modulation frequency and the second modulation

frequency from the fundamental frequency, the DDS including a digital accumulator of word width N which is incrementable by an integer Z via an incrementation stage per each clock unit of the oscillator, the oscillator being a quartz oscillator and having the fundamental frequency.

25. (New) The device as recited in claim 23, wherein the triggering unit includes separate direct digital synthesizer (DDS) units to generate modulation frequency.

26. (New) The device as recited in claim 23, wherein the triggering unit includes a divider unit to generate the sampling frequency from one of the first modulation frequency or the second modulation frequency.

27. (New) The device as recited in claim 26, wherein a division ratio of the divider unit is an integer.

28. (New) The device as recited in claim 26, wherein a division ratio of the divider unit is at least 2.